INDEX

KINETICS AND CATALYSIS

Volume 8, Numbers 1-6, 1967

KINETICS AND CATALYSIS
Volume 8, Numbers 1-6, 1967
(A translation of Kinetika i Kataliz)

A

Afanasenkov, Yu.G.-1061
Agasandyan, V.A.-654
Akhmedov, V.M.-285
Akopdzhanov, R.G.-75, 292, 806
Aliev, R.R.-1017
Alikina, G.M.-292
Amerikov, V.G.-551
Andronov, L.M.-234
Antonovskii, V.L.-572
Antoshin, G.V.-108
Anufrienko, V.F.-333, 533
Apel'baum, L.O.-326, 696
Artamonov, E.V.-546
Artyukh, Yu.N.-1114

B

Babin, E.P.-191
Badyanova, A.V.-39
Bagdasar'yan, Kh.S.-34, 245, 578, 920
Bakh, N.A.-262
Balandin, A.A.-71, 239, 330, 520, 592, 684, 689, 1071, 1175
Baranova, G.A.-18
Barthomeuf, D.-95
Bass, S.I.-768
Batsanov, S.S.-1140
Batyuk, V.A.-455
Bazhin, N.M.-459
Beginina, M.S.-191
Bekauri, N.G.-1079
Belen'kaya, A.P.-116
Bel'ferman, A.L.-1035
Belov, G.P.-229
Belova, R.N.-768
Belyakov, V.K.-590
Berezin, B.D.-507
Berlin, A.A.-25, 590, 768
Beskov, V.S.-164
Bezrukov, B.N.-258
Bizhanov, F.B.-529
Blyumberg, É.A.-643
Bodrov, I.M.-326, 696
Bogomolova, N.B.-229
Boldyrev, V.V.-258, 659, 1002 1066
Boldyreva, A.V.-258
Bodyreva, N.A.-1114
Bol'shun, E.V.-151
Boreskov, G.K.-64, 126, 551, 714, 815, 878, 1140
Borisova, N.M.-817
Borunova, N.V.-1075
Bragin, O.V.-803
Brmakov, Yu.I.-156
Brueva, T.R.-200
Bryukhovetskaya, L.V.-1110
Buchachenko, A.L.-624
Burnova, N.E.-366
Bursian, N.R.-1085
Buyanov R.A.-126, 352
Buyanova, N.E.-737
Buzlanova, M.M.-572

C

Chaikin, A.M.-421, 618
Chernyavskaya, O.N.-737
Chirkov, N.M.-229
Chirkov, Yu.N.-1161
Chkheidze, I.I.-390, 1164
Chuvylkin, N.D.-659

D

Danielova, S.S.-1075
Dauletov, B.-785
Davlesupova, R.G.-1169
Davydova, Z.A.-1085
Denisova, T.A.-377
Derlyukova, L.E.-361
Deryagina, É.N.-516
Didoin, V.I.-533, 539
Distler, G.I.-817
Dmitriev, R.V.-200
Dobrosel'skaya, N.P.-684
Druz', V.A.-296, 496, 785
Dubinin, M.M.-252
Dubovitskii, F.I.-1061
Dulov, A.A.-112
D'yachenko, N.L.-176
D'yachkovskii, F.S.-1042
Dzeventski, Z.-357
Dzhavadov, S.P.-210
Dzis'ko, V.A.-160

E

Efimovich, E.V.-1172
Éidus, Ya.T.-512, 1178
Eliseev, N.A.-116, 703
Émanuél', N.M.-648
Enikeev, É.Kh.-139
Éntelis, S.G.-43, 1161
Eremenko, N.K.-464, 1056
Ermakov, Yu.I.-307, 1183
Erokhina, V.R.-512
Ershov, N.I.-512, 1178

F

Fasman, A.B.-53
Fedotov, A.V.-164
Filippova, T.V.-643
Flid, R.M.-187, 311, 449, 1047
Fradkin, F.R.-561
Freidlin, L.Kh.-1075
Fridshtein, I.L.-792
Frolova, Z.S.-572
Furman, G.A.-756
Gadzhi-Kasumov, V.S.-520
Galeev, Yu.R.-1047
Ganichenko, L.G.-795
Gankin, V.Yu.-778
Garanin, V.I.-605
Gerasimova, G.F.-533
Gareev, G.A.-1158
Gel'perina, É.G.-311
Gershanova, É.L.-442
Gershenzon, Yu.M.-824
Gezalov, A.A.-397
Gil'burd, M.M.-226
Glantseva, I.M.-112
Glazneva, G.V.-1119

Glazunov, P. Ya. -821
Godunova, L. F. -71
Gonikberg, M. G. -273
Golubkova, G. V. -1104
Gordon, E. B. -565, 763
Gorokhovatskii, Ya. B. -597
Gridasova, G. V. -1140
Grishina, A. D. -262, 588
Gudkov, B. S. -592
Gudkova, G. B. -366
Gurman, V. S. -455
Gutman, É. E. -602
Gvinter, L. I. -1075

H

Hatada, M. -634
Hirota, K. -634
Ho Chi Tuang, -594
Hu Sin-Chou, -664

I

Ikhsanov, Zh. A. -53
Il'chenko, N. I. -184
Imyanitov, N. S. -1051
Ioffe, I. I. -486
Isagulyants, G. V. -520
Ivanov, A. A. -126, 768
Ivanov, L. P. -307
Ivanov, M. M. -139

K

Kabanov, A. A. -474
Kadlets, O. -252
Kadushin, A. A. -720, 1147
Kaidymov, B. I. -48
Kalechits, I. V. -516, 812, 952, 1099
Kaliberdo, L. M. -86, 401
Kapachauskene, Ya. P. -181
Kapralova, G. A. -421
Karachevtsev, G. V. -1, 383
Karakchiev, I. G. -156
Karasev, A. N. -203
Karnaukhov, A. P. -143, 366, 737
Kasatkina, L. A. -551
Kazanskii, B. A. -841
Kazanskii, V. B. -344, 608, 725, 960, 1153
Kefeli, L. M. -75, 292, 352, 737, 1140
Keier, N. P. -75, 133, 673, 1018, 1119, 1140
Keir, N. P. -292, 333, 533, 539
Kharlampovich, G. D. -176, 782
Khasin, A. V. -815
Khisametdinov, A. M. -529
Khloplyankina, M. S. -624
Khodakov, Yu. S. -404
Khrushch, N. E. -1042
Khydyakov, G. N. -1031
Kiperman, S. L. -337, 520, 1129
Kipnis, A. Ya. -679
Kirilyuk, L. V. -64
Kiselev, A. V. -210, 415
Klabunovskii, E. I. -71, 689, 1175
Klier, K. -1184
Klimova, N. V. -486
Knunyants, I. L. -708
Knuyants, I. L. -1091
Kobzev, Yu. N. -1031
Kogan, S. B. -1085
Kolbanovskii, Yu. A. -203, 266
Kolesnikov, I. M. -788
Kolovertnov, G. D. -156
Koltunova, L. N. -1172
Komarov, V. F. -474, 776, 1066
Kondrat'ev, D. A. -108
Kondrat'ev, V. N. -831
Koritskii, A. T. -390
Koroban, V. A. -393
Korobeinichev, O. P. -410
Korol' A. N. -89
Korsunskii, B. L. -1061
Kozlov, G. I. -1031
Kozlov, V. M. -13
Krentsel', B. A. -18
Krupnikova, E. I. -1075
Krylov, O. V. -720
Krylova, A. V. -361
Kubasov, A. A. -120, 302
Kudinov, V. M. -1140
Kulakova, I. I. -239
Kundo, N. N. -673, 1119
Kupcha, I. A. -415
Kurchatov, M. S. -249
Kurkchi, U. M. -605
Kushnareva, E. G. -1181, 1183
Kuvakhina, P. R. -401
Kuznetsov, L. D. -139

L

Lainer, D. I. -1075
Lambiev, D. K. -249
Latyshev, V. P. -59
Lavrovskii, K. P. -613, 1021
Lebedev, N. N. -13
Lebedev, Ya. S. -213
Levchuk, V. S. -491
Liberman, A. L. -81, 803
Likhtenshtein, G. I. -25
Lipovich, V. G. -812, 1099
Litmanovich, A. D. -654
Loshchilova, A. V. -507
Lyashenko, L. V. -597
Lygin, V. I. -415
Lyubarskii, A. G. -207

M

Mairanovskii, S. G. -273
Maizus, Z. K. -576, 648
Maksimov, Yu. V. -1021
Mali, V. I. -1140
Malkhina, N. Ya. -529
Mamaeva, E. K. -292, 533, 1119
Mantashyan, A. A. -988
Mardaleishvili, R. E. -664
Margolis, L. Ya. -361
Markova, Z. A. -558
Marshtupa, V. P. -191
Mashchenko, A. I. -608, 725, 1153
Mashkina, A. V. -1104
Masterova, M. N. -266
Matveev, K. I. -278, 464, 1056
Mel'nikova, V. G. -776
Men'shutin, V. P. -1158
Mikhailenko, I. E. -821
Mikhailov, Yu. I. -659
Mikhailova, N. F. -679
Mikheeva, E. P. -1018
Mikheikin, I. D. -1153
Milyutinskaya, R. I. -578
Minachev, Kh. M. -108, 404, 605, 788
Min'kov, A. I. -133, 333
Moin, F. B. -226
Molin, Yu. N. -1012
Morotskii, O. A. -782
Moskovskaya, I. F. -524
Myasnikov, I. A. -151, 599, 602
Mysov, E. I. -708, 1091

N

Nalbandyan, A. B. -824, 988
Naumov, V. A. -330, 1071
Neimark, I. E. -370
Nekipelov, V. N. -714
Nesterov, O. V. -1161
Nevostruev, V. A. -178
Nikitin, Yu. S. -210
Nosov, É. F. -582

O

Odyakov, V. F. -278
Öhlmann, G. -629

Olfer'eva, T.G.-407
Ordynskaya, V.V.-1172
Orlov, V.A.-590
Ostrovskii, V.E.-319

P

Palazov, A.-732
Panchenkov, G.M.-561, 788
Panomarev, A.N.-565
Parfanovich, B.N.-821
Pariiskii, G.B.-608, 725
Pavlov, B.V.-756
Pecherskaya, Yu.I.-344
Perepelitsa, V.I.-196
Perrin, M.-95
Peshev, O. - 479
Petoyan, V.P. - 207
Petrov, Yu.I. - 689, 1175
Pettre, M. - 95
Piguzova, L.I. - 594
Pis'mennaya, M.V. - 89
Podgornova, V.A. - 772
Polak, L.S. - 203
Polievktov, M.K. - 273
Politanskii, S.F. - 7
Poltavchenko, Yu. A. - 288
Ponets, V. - 252
Ponomarev, A.N. - 763
Popov, N.I. - 529
Popova, E.N. - 89
Popova, N.I. - 59, 401
Poroikova, A.I. - 988
Prokopchik, A.Yu. - 797
Pyatnitskaya, A.I. - 89

R

Rabina, P.D. - 139
Rachovskaya, L.N. - 1056
Ratner, I.D. - 737
Ravdel', A.A. - 679
Razumovskii, S.D. - 491
Reshetnikov, S.M. - 194, 1125,
Roginskii, S.Z. - 894, 1017, 1135, 1147.
Roiter, V.A. - 889
Romanova, G.F. - 196
Romanovskii, B.V. - 594, 799
Rozental', A.L. - 377
Rozlovskii, A.I. - 1027
Rozovskii, G.I. - 797
Rozovskii, V.Ya. - 974
Rubinshtein, A.M. - 112, 200, 936.
Rubtsova, L.F. - 75, 292, 535
Rudenko, A.P. - 239, 684
Rudovskaya, E.B. - 491
Rudkovskii, D.M. - 778, 1051
Rufov, Yu.N. - 558, 1147
Rusakova, M.S. - 772
Rusin, L. Yu. - 618, 756
Rusov, M.T. - 1114
Ryashentseva, M.A. - 788

S

Sachyan, G.A.-824
Sadchikova, L.N. - 496
Sakharov, E.S.-776
Sal'danya, A.R. - 103
Salikov, K.M. - 173
Savin, A.P. - 592
Savostin, Yu.A. - 1104
Sazonov, L.A. - 546
Sazonova, I.S. - 1140
Schastnev, P.V. - 169
Schirmer, W. - 629
Schnabel, K.H. - 500
Seleznev, V.A. - 1135
Sergeev, G. B. - 455
Shadrin, L.P. - 352
Shakarashvili, T.S. - 1079
Shapovalova, L.A. - 1110
Sharapov, V.M. - 725
Shatenshtein, A.I. - 907
Sheinfain, R. Yu. - 370
Shendrik, M.N. - 64
Shevchuk, U.U. - 7
Shevchuk, V.U. - 1035
Shilov, A.E. - 421, 618, 1042
Shimulis, V.I. - 103
Shipatov, V.T. - 474
Shkarin, A.V. - 1167
Shlyapnikov, Yu.A. - 181, 586
Shmidt, F.K. - 812, 1099
Shmidt, I.V. - 659
Shopov, D. - 732
Shtern, V.Ya. - 654
Shuikin, N.I. - 1079
Shul'man, M.L. - 792
Sinitsyna, Z.A. - 245
Sivergin, Yu. M. - 25
Skibida, I.P. - 648
Skorik, A.I. - 1066
Skorodelov, D.I. - 219, 428
Skubnevskaya, G.I. - 1012
Slinkin, A.A. - 112
Slin'ko, M.G. - 164
Slovetskaya, K.I. - 200
Smirnova, I.V. - 302
Smirnova, L.V. - 120
Smorodinskaya, Zh. Ya. - 664
Sokolinskii, Yu.A. - 747
Sokolov, V.A. - 720
Sokol'skaya, A.M. - 194, 1125
Sokol'skii, D.V. - 529, 785, 1125, 1169
Sorokin, M.F.-442
Spiring Yu. L. - 30
Spitsyn, Vikt. I. - 684, 821
Spozhakina, A.A. - 524
Starostina, T.S. - 815
Stasinevich, D.S. - 387
Stepko, I.I. - 196
Sterligov, O.D. - 116, 404, 407, 703
Stotskaya, L.L. - 18
Svetlov, B.S. - 393
Svidchenko, V.F. - 311
Sycheva, Yu.V. - 792

T

Tal'roze, V.L. - 1, 383
T'ao Lung-Hsiang - 803
Tarakanov, O.G. - 590
Tarasova, D.V. - 160
Temkin, M.I. - 696, 865
Temkin, O.N. - 311, 449, 1047
Tiger, R.P. - 43
Tikhonov, G.F. - 449, 1047
Tirak'yan, Yu. A. - 561
Tolstopyatova, A.A. - 330, 856, 1071
Topchieva, K.V. - 120, 302, 524, 594
Topor, D.N. - 1167
Torgasheva, A.A. - 86
Trambouze, Y. - 95
Treger, Yu. A. - 187
Trofimov, V.I. - 390, 1164
Trosman, É.A. - 34
Tsivenko, V.I. - 599
Tsvetkov, Yu.D. - 468
Tsvetkova, V.I. - 229
Tur'yan, Ya.I. - 772

U

Usol'teva, L.M. - 1018
Ustavshchikov, B.F. - 772

V

Vaabel' A.S. - 86
Vaabel', S.S. - 401
Vainshtein, É.E. - 75, 292, 806
Vaks, E.A. - 262
Valov, P.I. - 643
Vashkyalis, A.I. - 797
Vichutinskii, A.A. - 576

Voevodskii, V.V. - 1110
Voinov, A.N. - 219, 428
Vol'kenshtein, F.F. - 479
Voronin, Yu. V. - 821
Vyshnyakova, G.P. - 160

Y

Yablokov, V.A. - 39
Yablokova, N.V. - 39
Yampol'skii, Yu. P. - 613, 1021
Yanovskii, M.I. - 809, 1017
Yantovskii, S. Ya. - 437
Yurevichene, R.P. - 181

Z

Zaikov, G.E. - 234, 576
Zakharkin, L.I. - 285
Zakharov, V.A. - 1181, 1183
Zakharov, Yu. A. - 178
Zalevskaya, R.I. - 468
Zel'tser, S.P. - 561
Zhabrova, G.M. - 397, 1167
Zhavoronokova, K.N. - 714
Zhidomirov, G.M. - 169, 659
Zhorov, Yu. M. - 561
Zhukova, G.G. - 401
Zimin, R.A. - 809
Zlotina, N.E. - 337, 1129
Zotova, N.L. - 191

KINETICS AND CATALYSIS
Volume 8, Numbers 1-6, 1967
(A translation of Kinetika i Kataliz)

CONTENTS

Volume 8, Number 1 January-February, 1967

	Engl.	Russ.
Use of an Ion Source with a Filament for the Study of Processes Arising from Collisions of Electrons and Ions with Molecules– G.V. Karachevtsev and V.L. Tal'roze ...	1	5
Thermal Transformations of Fluoromethanes.I. Pyrolysis of Methyl Fluoride – S. F. Politanskii and U.U. Shevchuk	7	12
Reactions of α-Oxides. XI. Kinetics of the Reaction of Ethylene Oxide with Alcohols Catalyzed by Boron Trifluoride and Certain Metal Halides – V.M. Kozlov and N.N. Lebedev	13	18
Some Problems of the Activity of Catalysts of Coordination Polymerization – G.A. Baranova, L.L. Stotskaya, and B.A. Krentsel'	18	24
Kinetics of Adiabatic Polymerization of Oligoesteracrylates – Yu.M. Sivergin, G.I. Likhtenshtein, and A.A. Berlin	25	32
Quantitative Allowance for the Polar Effect in Polymerization Reactions – Yu.L. Spirin	30	38
Determination of the Absolute Rate Constants of Elementary Reactions by a Short-Time Photoinitiation Method – Kh.S. Bagdasar'yan and É.A. Trosman	34	43
Heterolytic Rearrangement of Peresters. II.Influence of the Medium and Catalyst on the Reactivity of Cumyl Perbenzoate – N.V. Yablokova, V.A. Yablokov, and A.V. Badyanova	39	49
Role of the Medium in the Mechanism of the Interaction of Isocyanates with Alcohols. II –R. P. Tiger and S. G. Éntelis	43	54
Kinetics of Thermal Decomposition of Pentaerythritol Tetranitrate below its Melting Point – B.I. Kaidymov	48	60
Some Principles in Selection of Catalysts for Homogeneous Hydrogenation – A.B. Fasman and Zh.A. Ikhsanov	53	66
Investigation of the Oxidation of n-Butenes and Methylacetylene on Certain "Mild" Oxidation Catalysts by a Calorimetric Analysis Method – V.P. Latyshev and N.I. Popova	59	73
Investigation of the Dehydrogenation of Butane by a Circulation Method. I. Kinetics of the Formation of Butylenes and Carbonization–M. N. Shendrik, G. K. Boreskov, and L.V. Kirilyuk	64	79
Inversion of l-Menthone on an Alumosilicate Catalyst – E.I. Klabunovskii, L.F. Godunova, and A.A. Balandin	71	87
X-Ray K-Absorption Spectra and Reactivity of Chelate Compounds of Copper – R.G. Akopdzhanov, É.E. Vainshtein, N.P. Keier, L.M. Kefeli, and L.F. Rubtsova ..	75	91
Role of Hydrogen in the Configuration Isomerization of Dialkylcyclopentanes in the Presence of Platinum – O.V. Bragin, Tao Lun-syan, and A.L. Liberman	81	98
Conversion of Propylene Oxide on Some Carriers and Silver Catalysts. II. Use of Metallic Aluminum as a Carrier–L. M. Kaliberdo, A. S. Vaabel', and A. A. Torgasheva	86	105
Oxidation of Pentenes on a Copper Catalyst. I. Oxidation of Commercial Amylenes on Cuprous Oxide–Ya. B. Gorokhovatskii, A. N. Korol', M. V. Pis'mennaya, E. N. Popova, and A.I. Pyatnitskaya	89	108

Effect of the Strength and Number of an Alumino-Catalyst's Acid Centers on its Cracking Properties – D. Barthomeuf, M. Perrin, Y. Trambouze, and M. Prettre 95 115
Mechanism of Catalytic Redistribution of Hydrogen in Cyclohexene, Studied by Mass Spectrometry – V.I. Shimulis and A.R. Sal'danya 103 125
Properties of Rare Earth Oxides in Heterogeneous Catalytic Oxidation of Propylene – Kh.M. Minachev, D.A. Kondrat'ev, and G.V. Antoshin 108 131
Catalytic Properties of Heat-Treated Polymethyl Vinyl Ketone in the Decomposition of Formic Acid – A.A. Slinkin, A.A. Dulov, I.M. Glantseva, and A.M. Rubinshtein . 112 136
Effect of the Nature of a Promoter on the Properties of an Aluminochromium Catalyst for Dehydrogenation of Isopentane – O. D. Sterligov, N.A. Eliseev, and A.P. Belen'kaya 116 141
Catalytic Isomerization of Cyclenes on Alumina. I. Isomerization of 1-Methyl-1-cyclohexene – A.A. Kubasov, L.V. Smirnova, and K.V. Topchieva 120 146
Kinetics of Sulfur Dioxide Oxidation on Vanadium Catalysts – G.K. Boreskov, R.A. Buyanov, and A.A. Ivanov 126 153
Mechanism of the Oxidation of Cumene on Copper Phthalocyanine – A.I. Min'kov and N.P. Keier 133 160
Modification of an Iron Ammonia-Synthesis Catalyst by Certain Metals – P.D. Rabina, L.D. Kuznetsov, É.Kh. Enikeev, and M.M. Ivanov 139 167
Combined Investigation of the Pore Structure of Catalysts. I. Some Problems in the Contemporary State of the Sorption Method – A.P. Karnaukhov 143 172
Effect of the Adsorption of Metal Vapors on the Electrical Conductivity of Zinc Oxide Films – I.A. Myasnikov and E.V. Bol'shun 151 182
Supported Chromium Oxide Catalysts for Ethylene Polymerization. The Cause of Stabilization of Cr^{6+} Ion – I.G. Karakchiev, Yu.I. Brmakov, and G.D. Kolovertnov..... 156 188
Effect of the Preparation Method on the Pore Structure and the Strength of Catalysts and Supports – V.A. Dzis'ko, D.V. Tarasova, and G.P. Vishnyakova 160 193
Optimal Conditions of an Exothermal Reaction with the Temperature Controlled by Introduction of a Cold Component – A.V. Fedotov, V.S. Beskov, and M.G. Slin'ko 164 198

BRIEF COMMUNICATIONS

Use of the LCAO MO Approximation to Calculate the Directing Influence of Substituents in Reactions Involving the Addition of a Hydrogen Atom to Substituted Benzenes – P.V. Schastnev and G.M. Zhidomirov 169 203
Some Remarks on the Role of Impurities in Radiolysis – K.M. Salikov 173 206
Decomposition Kinetics of Copper Benzoates – G.D. Kharlampovich and N.L. D'yachenko 176 208
Catalysis of Ammonium Nitrate Radiolysis by Semiconductor Oxides – V.A. Nevostruev and Yu.A. Zakharov 178 210
Participation of Carbon Black in the Rupture of Kinetic Chains in Polyethylene Oxidation – Ya.P. Kapachauskene, R.P. Yurevichene, and Yu.A. Shlyapnikov 181 212
Effect of Small Additions of Platinum on the Laws of Formation and Growth of Nucleating Centers of a New Phase During Reduction of V_2O_5 by Hydrogen – N.I. Il'chenko ... 184 215
Kinetics of the Catalytic Hydrolysis of Allyl Chloride in the Presence of Group VIII Metals – R.M. Flid and Yu. A. Treger 187 218
Alkylation, Conjugated Alkylation, and Disproportionation of Ethylisopropyl Benzenes – E.P. Babin, N.L. Zotova, M.S. Beginina, and V.P. Marshtupa 191 221
Energy Bonds of Certain Oxide Catalysts with Oxygen, Hydrogen, and Carbon Atoms – S.M. Reshetnikov and A.M. Sokol'skaya 194 224
Reaction of Germanium with Oxygen, Studied by Mass Spectrometry – G.F. Romanova, I.I. Stepko, and V.I. Perepelitsa 196 226
Chemisorption of n-Butane on a Dehydrogenating Aluminochromium-Potassium Catalyst – K.I. Slovetskaya, T.R. Brueva, R.V. Dmitriev, and A.M. Rubinshtein 200 229
Chemisorption of Organotin Compounds on γ-Al_2O_3 – A.N. Karasev, Yu.A. Kolbanovskii, L.S. Polak, and É.B. Shlikhter 203 232

Circulation Pump for Studying the Kinetics of Heterogeneous Vapor-Phase Reactions – A. G. Lyubarskii and V. P. Petoyan 207 235
Gas Chromatographic Method of Investigating the Heterogeneity of the Surface of an Aluminosilicate Catalyst – S. P. Dzhavadov, A. V. Kiselev, and Yu. S. Nikitin 210 238

Volume 8, Number 2 March-April, 1967

The Kinetics of Bimolecular Reactions in the Solid Phase. Calculation of the Rates on the Basis of a Cellular Model — Ya. S. Lebedev 213 245
Study on the Development of Preflame Processes and Ignition of Hydrocarbons of Various Structures. 1. Induction Periods of Ignition and Cold Flames as Functions of Compression Temperature and Pressure — A. N. Voinov and D. I. Skorodelov ... 219 252
Mass-Spectrometric Study of the Kinetics of Rapid High-Temperature Reactions. II. Thermal Decomposition of Ethyl Formate — M. M. Gil'burd and F. B. Moin 226 261
Kinetics of Ethylene Polymerization in the Soluble Catalytic System $(C_5H_5)_2TiCl_2$-$Al(C_2H_5)_2Cl$ in Ethyl Chloride Medium — G. P. Belov, N. B. Bogomolova, V. I. Tsvetkova, and N. M. Chirkov 229 265
Influence of Certain Solvents on the Rate of Formation of Radicals in the Thermal Decomposition of Azoisobutyrodinitrile — L. M. Andronov and G. E. Zaikov 234 270
Catalytic Activity of Alkali-Metal Ions in the Oxidative Solution of Diamond — A. P. Rudenko, I. I. Kulakova, and A. A. Balandin 239 275
Kinetics of Two-Quantum Photochemical Reactions. The Carbazole-Ethanol System —Z. A. Sinitsyna and Kh. S. Bagdasar'yan 245 283
Thermokinetic Studies of the Reduction of PbO_2, Pb_3O_4, and PbO with Hydrogen and Carbon Monoxide — D. K. Lambiev and M. S. Kurchatov 249 288
Catalysis in the Thermal Decomposition of Silver Oxide — M. M. Dubinin, O. Kadlets, and V. Ponets 252 292
Mechanism of the Effect of Impurities on the Thermal Decomposition of Ammonium Perchlorate — A. V. Boldyreva, B. N. Bezrukov, and V. V. Boldyrev 258 299
EPR Spectra of Semiconductors Based on Polyvinyl Acetate — A. D. Grishina, E. A. Vaks, and N. A. Bakh 262 304
Kinetic Principles of the Radiation Chemisorption of Oxygen on the Surface of γ-Al_2O_3 — Yu. A. Kolbanovskii and M. N. Masterova 266 309
Polarographic Study of the Effect of Pressure on the Kinetics of Protonization of Pyridine by Water — M. K. Polievktov, S. G. Mairanovskii, and M. G. Gonikberg 273 316
Application of the Taft Equation to the Selection of Homogeneous Catalysts of the Oxidation of Propylene to Propylene Glycol — V. F. Odyakov and K. I. Matveev 278 322
A Study of the Cyclotrimerization of Butadiene on the Catalytic System $C_6H_6 \cdot TiCl_2 \cdot Al_2Cl_6$ + R_2AlR' — V. M. Akhmedov and L. I. Zakharkin 285 331
Investigation of the Vapor-Phase Oxidation of Methylacetylene on Heterogeneous Catalysts — Yu. A. Poltavchenko and N. I. Popova 288 335
X-ray Spectral Investigation of Polychelates of Copper and Their Interaction in the Reaction Mixture during Certain Chemical Reactions — R. G. Akopdzhanov, É. E. Vainshtein, L. M. Kefeli, N. P. Keir, L. F. Rubtsova, E. K. Mamaeva, and G. M. Alikina 292 340
The Relation between the Shift in Catalyst Potential and the Reaction Rate in Liquid Phase Hydrogenation Processes. III. Quantitative Evaluation of the Activity of Hydrogenation Catalysts — V. A. Druz' 296 344
Catalytic Isomerization of Cyclenes on Aluminum Oxide. II. Isomerization of 1-Methyl-3-Cyclohexene and 1-Ethyl-Cyclopentene — A. A. Kubasov, I. V. Smirnova, and K. V. Topchieva 302 351
Some Data on the Centers of Growth of Polymer Chains in Polymerization on a Chromium Oxide Catalyst — Yu. I. Ermakov and L. P. Ivanov 307 357

An Investigation of the Kinetics and Mechanism of the Synthesis of 2-Butyne-1, 4-Diol — É. G. Gel'perina, O. N. Temkin, R. M. Flid, and V. F. Svidchenko 311 362
Study of the Catalytic Oxidation of Hydrogen on Silver by the Method of Adsorption Calorimetry — V. E. Ostrovskii 319 371
Kinetics of the Reaction of Methane with Carbon Dioxide on a Nickel Surface — I. M. Bodrov and L. O. Apel'baum 326 379
On the Catalytic Properties of Terbium Oxide in Dehydrogenation and Dehydration of Alcohols and Dehydrogenation of Tetralin — A. A. Balandin, A. A. Tolstopyatova, and V. A. Naumov 330 383
The Mechanism of Isopropyl Benzene Oxidation on Copper Phthalocyanin — A. A. Min'kov, N. P. Keier, and V. F. Anufrienko 333 387
On the Kinetics of Benzene Hydrogenation on Nickel Catalysts in a Gradient-Free System. I — N. E. Zlotina and S. L. Kiperman 337 393
Coordination of Pentavalent Chromium and Activity of Chromium Oxide Catalysts in the Polymerization of Ethylene — Yu. I. Pecherskaya and V. B. Kazanskii 344 401
Studies on the Development and Aging of a Chromium-Iron Oxide Catalyst during Operation of an Industrial Reactor — L. P. Shadrin, R. A. Buyanov, and L. M. Kefeli 352 410
The Influence of the Surface and Internal State of TiO_2 on Dissociate Adsorption of N_2O — Z. Dzeventski 357 415
The Surface Charge of Oxidizing Catalysts during the Adsorption of a Mixture of Propylene and Oxygen — L. E. Derlyukova, A. V. Krylova, and L. Ya. Margolis 361 421
A Comparison of Various Chromatographic Methods for Determining the Specific Surface Area of Solids by the Adsorption of Argon — N. E. Burnova, G. B. Gudkova, and A. P. Karnaukhov 366 428
Methods of Preparing Silica Gels with a Fixed Pore Structure — R. Yu. Sheinfain and I. E. Neimark 370 433
Effects of Internal Diffusion on the Impulse Chromatographic Operating Conditions of a Reactor — T. A. Denisova and A. L. Rozental' 377 441

BRIEF COMMUNICATIONS

An Experimental Investigation of the Dissociation of Excited Ions — G. V. Karachevtsev and V. L. Tal'roze 383 447
On the Reason for the Action of Organoelementary Antidetonators — D. S. Stasinevich .. 387 450
Some Aspects of Radical Formation in the Low Temperature Radiolysis of Benzoyl Peroxide — I. I. Chkheidze, V. I. Trofimov, and A. T. Koritskii 390 453
On the Inhibition of the Thermal Decomposition of Ammonium Perchlorate by the Decomposition Products — B. S. Svetlov and V. A. Koroban 393 456
Study of the Chemisorption of Hydrogen and Oxygen on Zinc and Aluminum Oxides under the Action of γ Radiation — A. A. Gezalov and G. M. Zhabrova 397 460
Catalytic Oxidation of Propylene on Silver. I. Use of Catalysts Containing No Additives — L. M. Kaliberdo, A. S. Vaabel', G. G. Zhukova, P. R. Kuvakina, and N. I. Popova 401 463
Influence of the Reduction of an Aluminum-Chromium-Potassium Catalyst by Hydrogen upon Its Activity in the Dehydrogenation of Butane to Butylenes — Yu. S. Khodakov, O. D. Sterligov, and Kh. M. Minachev 404 465
On the Catalytic Dehydrogenation of Isopentane at Reduced Pressure — O. D. Sterligov and T. G. Olfer'eva 407 468
Kinetics of Reactions of Hydrogen Sulfide and Carbonyl Sulfide with Bauxite at Increased Temperatures — O. P. Korobeinichev 410 471
Ultraviolet Spectra of Diphenylamine Absorbed on X and Y Zeolites — A. V. Kiselev, I. A. Kupcha, and V. I. Lygin 415 475

COMMEMORATION

Georgii Konstantinovich Boreskov (On the Occasion of His 60th Birthday) 418 478

Volume 8, Number 3 May-June, 1967

The Kinetics of the Reaction of Fluorine with Ethylene under Diffusion Flame Conditions — G. A. Kapralova, A. M. Chaikin, and A. E. Shilov 421 485
A Study of the Characteristics of the Development of Pre-Ignition Processes and the Combustion of Hydrocarbons of Different Structure. II. The Intensity of the Cool-Flame Stage — A. N. Voinov and D. I. Skorodelov 428 493
Two-Stage Combustion of Explosive Mixture. IV. Rate of Pressure Rise during the Cold-Flame Stage of Combustion of Binary Isooctane-n-Heptane Mixtures in Air — S. Ya. Yantovskii 437 506
The Mechanism of Reaction of Monoepoxy Compounds with Carboxylic Acids — M. F. Sorokin and É. L. Gershanova 442 512
Kinetics and Mechanism of the Catalytic Dimerization of Acetylene. I. On the Role of Protonic Acidity in the Dimerization of Acetylene — G. F. Tikhonov, O. N. Temkin, and R. M. Flid 449 520
Photolysis of Frozen Dilute Solutions of H_2O_2 in Water — V. S. Gurman, V. A. Batyuk, and G. B. Sergeev 455 527
Reactions of Hydrogen Atoms in the $H_2O + H_2SO_4 + FeSO_4$ System. V. Action of Light on "Adhesion" Radicals — N. M. Bazhin 459 532
Reactivity of Complexes of Pt^{IV} in the Oxidation of Carbon Monoxide in Aqueous Solutions — N. K. Eremenko and K. I. Matveev 464 538
Study of the Properties of Free Radicals Formed by Irradiation of Water and Methyl Alcohol Adsorbed on Synthetic Zeolites — R. I. Zalevskaya and Yu. D. Tsvetkov .. 468 542
Thermal Decomposition of Silver Permanganate in the Presence of Metal Oxides — V. F. Komarov, A. A. Kabanov, and V. T. Shipatov 474 550
A Possible Origin of the "Distribution Function" in the Theory of Adsorption by an Inhomogeneous Surface — F. F. Vol'kenshtein and O. Peshev 479 557
Liquid-Phase Oxidation of Hydrocarbons on Solid Catalysts. I. Oxidation of Paraffins and Cycloparaffins — N. V. Klimova and I. I. Ioffe 486 565
Selective Hydrogenation of Crotonaldehyde to Butyraldehyde — S. D. Razumovskii, V. S. Levchuk, and E. B. Rudovskaya 491 572
The Relationship between Potential Displacement of the Catalyst and the Reaction Rate in Liquid-Phase Hydrogenation. IV. A Comparison of the Activities of Raney Nickel, Pt Black and Pd Black in Liquid-Phase Hydrogenation — V. A. Druz' and L. N. Sadchikova 496 578
Catalytic Properties of Platinum Catalysts. V. Effects of Alkali (KOH) on the Activity of Platinized Carbon — K. -H. Schnabel 500 583
Catalytic Properties of Phthalocyanines of Platinum Group Metals — B. D. Berezin and A. V. Loshchilova 507 592
Oxygen-Initiated Heterogeneous-Catalytic Condensation of Olefins in the Presence of Hydrogen. VIII. Conversions of 1-Hexene — N. I. Ershov, Ya. T. Éidus, and V. R. Erokhina 512 599
Formation of Nonstoichiometric Sulfur in the Preparation of WS_2 Catalyst — I. V. Kalechits and É. N. Deryagina 516 604
The Kinetics of Dehydrogenation of Cyclohexane on Chromium Oxide in a Gradientless System. II — V. S. Gadzhi-Kasumov, S. L. Kiperman, G. V. Isagulyants, and A. A. Balandin 520 609
Kinetics of Cumene Cracking on Modified Aluminum Silicate Catalysts, Studied by Gas Chromatography — A. A. Spozhakina, I. F. Moskovskaya, and K. B. Topchieva 524 614
Hydrogenation of Glucose on Raney Nickel Catalysts. I — F. B. Bizhanov, D. V. Sokol'skii, N. I. Popov, N. Ya. Malkhina, and A. M. Khisametdinov 529 620

Reactivity of Copper Polychelates and Their Monomer Analogs, Produced on the Basis of α-Thiopicolinanilides in the Reaction with Hydrazine — N. P. Keir, L. F. Rubtsova, G. F. Gerasimova, E. K. Mamaeva, V. I. Dindoin, and V. F. Anufrienko 533 625
Study of the Reaction of Hydrazine with Copper Complexes Based on Thiopicolinanilides by the Method of IR Spectroscopy — V. I. Dindoin and N. P. Keir 539 632
Investigation of the Mechanism of the Oxidation of Carbon Monoxide on Lanthanum Oxide — L. A. Sazonov and E. V. Artamonov 546 640
Catalytic Activity of Oxides of Iron, Cobalt, and Nickel with Respect to Isotopic Exchange in Carbon Dioxide Molecules — V. G. Amerikov, G. K. Boreskov, and L. A. Kasatkina. 551 646
The Mechanism of the Reaction between Pyridine and a NiO Surface — Z. A. Markova and Yu. N. Rufov 558 654
Development of a Mathematic Model Suitable for Optimation of the Platforming Process. II Yu. M. Zhorov, G. M. Panchenkov, Yu. A. Tirak'yan, S. P. Zel'tser, and F. R. Fradkin 561 658
Determination of the Lifetimes of Molecules and Atoms Adsorbed on Solid Surfaces. I. Method of Determining Lifetimes from Measurements of the Time Taken for Particles to Traverse a Long Tube — E. B. Gordon and A. N. Ponomarev 565 663

BRIEF COMMUNICATIONS
Kinetics of Alkaline Hydrolysis of tert-Butyl Perbenzoate — V. L. Antonovskii, M. M. Buzlanova, and Z. S. Frolova 572 671
Velocity Constants of Elementary Chain Prolongation and Termination in Liquid-Phase Oxidation of Methyl Ethyl Ketone — G. E. Zaikov, A. A. Vichutinskii, and Z. K. Maizus 576 675
Radiation Polymerization of Isobutylene in Liquid and Vitreous States — R. I. Milyutinskaya and Kh. S. Bagdasar'yan 578 677
Determination of the Velocity Constants of Elementary Acts of Polymerization of Tetrafluoroethylene — É. F. Nosov 582 680
On Some of the Laws Governing the Development of Degenerate-Branching Chain Reactions in the Presence of a Branching Inhibitor — Yu. A. Shlyapnikov 586 683
The Influence of Molecular Oxygen on the Line Width of the EPR Spectra of Polyethylene- and Polyvinylacetate-Based Organic Semiconductors — A. D. Grishina 588 685
On a Local Activation Effect in Polyuretanes Subjected to Thermal Decomposition — A. A. Berlin, V. K. Belyakov, V. A. Orlov, and O. G. Tarakanov 590 687
Deuterium Exchange of Cyclohexane on Partly Poisoned Platinum Films Deposited by Evaporation — B. S. Gudkov, A. A. Balandin, and E. P. Savin 592 689
Catalytic and Adsorption Properties of Zeolites. II. Heats of Adsorption of Some Hydrocarbons and Nitrogen-Containing Compounds on Y-Type Zeolites — Ho Chi Tuang, B. V. Romanovskii, K. V. Topchieva, and L. I. Piguzova 594 691
Effect of Light on the Decomposition of Hydrazine on Germanium — L. V. Lyashenko and Ya. B. Gorokhovatskii 597 694
Chemisorption of Amino Radicals on Zinc Oxide and Their Heterogeneous Recombination — V. I. Tsivenko and I. A. Myasnikov 599 696
Investigation of the Chemisorption of Free Radicals on a Semiconductor Adsorbent by the Method of Contact Potential Difference — É. E. Gutman and I. A. Myasnikov 602 699
A Gradientless Reactor for Studying the Kinetics of Reactions Proceeding under Pressure — V. I. Garanin, U. M. Kurkchi, and Kh. M. Minachev 605 701

LETTERS TO THE EDITOR
Observation by the EPR Method of Radicals Formed in the Adsorption of SO_2 on Partially Reduced TiO_2 and ZnO — A. I. Mashchenko, G. B. Pariiskii, and V. B. Kazanskii.. 608 704

OBITUARY
Vladislav Vladislavovich Voevodskii 610 706

[ABSTRACTS

Abstracts of Articles from the Journal of Catalysis, Vol. 6, Nos. 2 and 3, and Vol. 7, No. 1 708]

Volume 8, Number 4 July-August, 1967

Kinetic Regularities in the Formation of Pyrolysis Products of Ethylene and Acetylene — Yu. P. Yampol'skii and K. P. Lavrovskii 613 725

Branched-Chain Reaction of Fluorine with Methyl Iodide — L. Yu. Rusin, A. M. Chaikin, and A. E. Shilov 618 731

Reactivity of Electronically-Excited Nitroxide Free Radicals and Biradicals — A. L. Buchachenko and M. S. Khloplyankina 624 737

Role of Hydroperoxides in Oxidation of n-Hexane at Low Temperatures — G. Öhlmann and W. Schirmer 629 742

Mass-Spectra of Dialkyl Ketones and Their Theoretical Interpretation — K. Hirota and M. Hatada 634 748

Mechanism of Reaction of Peracetic Acid with Propylene — P. I. Valov, É. A. Blyumberg, and T. V. Filippova 643 760

Kinetics Mechanisms of Catalytic Cobalt Stearate Oxidation in Open Systems — I. P. Skibida, Z. K. Maizus, and N. M. Émanuél' 648 766

Kinetics of the Copolymerization of N-Vinylpyrrolidone with Vinyl Acetate — V. A. Agasandyan, A. D. Litmanovich, and V. Ya. Shtern 654 773

How Additions of Organic Compounds with Conjugated Bonds Influence the Thermal Decomposition of Silver Oxalate — V. V. Boldyrev, G. M. Zhidomirov, Yu. I. Mikhailov, N. D. Chuvylkin, and I. V. Shmidt 659 779

Kinetics and Mechanism of Ammonia Decomposition on Metal Catalysts. I. The Initial Velocities of Ammonia Decomposition on Pd, Ni, and Mo in Relation to the Ammonia Pressure at 450-980°C — R. E. Mardaleishvili, Hu Sin-Chou, and Zh. Ya. Smorodinskaya 664 786

Catalytic Activities of Organic Complexes of Copper in the Oxidation of Cysteine — N. N. Kundo and N. P. Keier 673 796

Kinetics of Nickel Carbonyl Formation at High Pressures — A. Ya. Kipnis, N. F. Mikhailova, and A. A. Ravdel' 679 803

Catalytic Decomposition of Hydrogen Peroxide on Fe-Phthalocyanine Catalysts — A. A. Balandin, Vikt. I. Spitsyn, A. P. Rudenko, and N. P. Dobrosel'skaya 684 808

Asymmetrical Hydrogenation on Skeletal Nickel, Modified with Optically Active Substances — Yu. I. Petrov, E. I. Klabunovskii, and A. A. Balandin 689 814

Kinetics of the Reaction of Methane with Water Vapor, Catalyzed by Nickel on a Porous Carrier — I. M. Bodrov, L. O. Apel'baum, and M. I. Temkin 696 821

Influence of Reduction on the Properties of an Aluminum-Chromium-Potassium Catalyst in the Process of Dehydrogenation of Isopentane to Isoamylenes — O. D. Sterligov and N. A. Eliseev 703 829

Comparison of the Reactivity of the Simplest Olefins and Fluoroolefins in Catalytic Hydrogenation — I. L. Knunyants and E. I. Mysov 708 834

Homomolecular Isotopic Exchange of Hydrogen on Nickel Films — K. N. Zhavoronkova, G. K. Boreskov, and V. N. Nekipelov 714 841

Infrared Spectroscopic Study of the Adsorption of Acrolein and Ethanol on Magnesium Oxide — V. A. Sokolov, A. A. Kadushin, and O. V. Krylov 720 848

Study of the Radicals Formed in the Chemisorption of Electron Acceptor Molecules on the Surface of n-Semiconductors. I. Conditions of Formation and EPR Spectra of Radical Forms of Adsorption of Oxygen on Reduced Titanium Dioxide — A. I. Mashchenko, V. B. Kazanskii, G. B. Pariiskii, and V. M. Sharapov 725 853

Infrared Spectroscopic Study of the Chemosorption of Hydrocarbons on Ni/SiO_2 — D. Shopov and A. Palazov 732 862

Separate Determination of the Surface of Complex Catalysts by Chromatographic Methods. I. Nickel on Carriers — N. E. Buyanova, A. P. Karnaukhov, L. M. Kefeli, I. D. Ratner, and O. N. Chernyavskaya 737 868
Kinetics of the Internal Diffusion Regime Calculated on an Electronic Digital Computer — Yu. A. Sokolinskii 747 878
Investigation of the Kinetics of a Complex Reaction by a Computer Technique — L. Yu. Rusin, G. A. Furman, and B. V. Pavlov 756 887
Determination of the Lifetimes of Adsorbed Molecules and Atoms on Solid Surfaces. II. Experimental Results — E. B. Gordon and A. N. Ponomarev 763 895

BRIEF COMMUNICATIONS
Inhibiting Activity of Polyphenylacetylene in the Oxidation of Cumol — A. A. Berlin, S. I. Bass, R. N. Belova, and A. A. Ivanov 768 900
Polarographic Investigation of the Kinetics of the Hydrolysis of Nitric Acid Esters. II — M. S. Rusakova, V. A. Podgornova, B. F. Ustavshchikov, and Ya. I. Tur'yan 772 903
Thermal Decomposition of Barium Azide and Sodium Bicarbonate in Liquid Organic Mediums — V. F. Komarov, E. S. Sakharov, and V. G. Mel'nikova 776 907
Mechanism of the Hydroformylation Reaction — V. Yu. Gankin and D. M. Rudkovskii 778 908
Vapor Phase Oxidation of Phenanthrene on Vanadium Catalysts in the Presence of Sulfur Dioxide — O. A. Morotskii and G. D. Kharlampovich 782 912
Hydrogenation of a Mixture of Cyclohexene and Acetone on Platinum and Palladium Blacks — V. A. Druz', D. V. Sokol'skii, and B. Dauletov 785 914
Kinetics of the Dehydrogenation of Cyclohexane under Reforming Conditions — M. A. Ryashentseva, Kh. M. Minachev, I. M. Kolesnikov, and G. M. Panchenkov 788 917
Carbonization and Hydrogen Sorption on Aluminum Catalysts — I. L. Fridshtein, M. L. Shul'man, and Yu. V. Sycheva 792 921
Catalytic Decomposition of Methanol on Rare Earth Oxides — L. G. Ganichenko 795 924
Catalytic Dehydrogenation of Formaldehyde on Copper — G. I. Rozovskii, A. I. Vashkyalis, and A. Yu. Prokopchik 797 925
Pulse Micromethod of Catalyst Poisoning — B. V. Romanovski 799 927
Role of Hydrogen in the Reaction of Configurational Isomerization of Dialkylcyclanes in the Presence of Noble Metals of Group VIII — O. V. Bragin, T'ao Lung-Hsiang, and A. L. Liberman 803 931
X-Ray Fluorescent $K\beta_5$-Lines of Copper in Catalytically Active Chelate Compounds — R. G. Akopdzhanov and É. E. Vainshtein 806 933
Study of the Surface of the Bi—Mo Catalyst for Oxidative Dehydrogenation by a Radiochromatographic Variation of the Differential Isotopic Method — R. A. Zimin and M. I. Yanovskii 809 936
Hydrogenation of Benzene in the Presence of Complex Organometallic Catalysts — V. G. Lipovich, F. K. Shmidt, and I. V. Kalechits 812 939
Homomolecular Exchange of Oxygen on Nickel Films — T. S. Starostina, A. V. Khasin, and G. K. Boreskov 815 942
Electron Microscope Study of the Active Centers in Solid Surfaces — G. I. Distler and N. M. Borisova 817 944
Continuous Dosimetry Apparatus for Radiation Catalysis — V. I. Spitsyn, I. E. Mikhailenko, P. Ya. Glazunov, Yu. V. Voronin, and B. N. Parfanovich 821 946

LETTERS TO THE EDITOR
Treatment of the Surface with a Hydrogen Sulfide Flame — G. A. Sachyan, Yu. M. Gershenzon, and A. B. Nalbandyan 824 949
Aleksei Aleksandrovich Balandin — (Obituary) 826 951

ABSTRACTS
[Articles from Journal of Catalysis, Vol. 7, Nos. 2 and 3 (1967) ..... 954]

Volume 8, Number 5 September-October, 1967

Progress in Chemical Kinetics and Catalysis in the USSR 829 963
Determination of Rate Constants of Elementary Chemical Processes—V. N. Kondrat'ev . . . 831 965
Catalytic Conversion of Hydrocarbons—B. A. Kazanskii 841 977
Development of the Basic Principles of A. A. Balandin's Multiplet Theory of Catalysis —A. A. Tolstopyatova 856 994
Kinetics of Reactions Including Adsorption-Chemical Equilibria—M. I. Temkin 865 1019
Some Possibilities of Predicting Catalytic Activity of Solid Oxidation-Reduction Reaction Catalysts—G. K. Boreskov 878 1020
Search for Solutions to the Problem of the Scientific Prediction of Catalytic Performance in Works of the L. V. Pisarzhevskii Institute of Physical Chemistry, Academy of Sciences of the UkrSSR—V. A. Roiter 889 1034
Studies on the Theory of Catalysts and the Kinetics of Solid-Phase Reactions —S. Z. Roginskii 894 1039
Reactivity of Organic Compounds (Kinetic Measurements of Hydrogen Isotope Exchange Reactions in Nonaqueous Solvents)—A. I. Shatenshtein 907 1056
Elementary Processes in Low Temperature Photochemistry and Radiation Chemistry —Kh. S. Bagdasar'yan 920 1073
Study of the Structure and Adsorptive Properties of Heterogeneous Catalysts in the N. D. Zelinskii Organic Chemistry Institute, Academy of Sciences of the USSR —A. M. Rubinshtein 936 1094
Use of Labeled Atoms for Studying the Interralationship and Sequence of Reactions in Some Petrochemical Processes—I. V. Kalechits 952 1114
Coordination of Surface Chromium Ions in Deposited Chromium Oxide Catalysts —V. B. Kazanskii 960 1125
Action of the Reaction Mixture on a Catalyst, and the Self-Regulation Effect in Catalysis —V. Ya. Rozovskii 974 1143
Kinetics and Mechanism of the Photochemical Oxidation of Saturated Hydrocarbons —A. I. Poroikova, A. A. Mantashyan, and A. B. Nalbandyan 988 1161
Certain Features of the Reaction Mechanism in the Thermal Decomposition of Solids —V. V. Boldyrev 1002 1179
Exchange Interactions of Aquo-Complexes of Ions of the Iron Group with Paramagnetic Particles in Solutions—G. I. Skubnevskaya and Yu. N. Molin 1012 1192

LETTERS TO THE EDITOR

Catalytic Oxidative Dehydrogenation of Isoamylenes to Isoprene by Application of the Chromatographic Pulse Method—S. Z. Roginskii, M. I. Yanovskii, and R. R. Aliev 1017 1198
Effect of an Electrical Field on Dehydration of Isopropyl Alcohol on Titanium Dioxide —N. P. Keier, E. P. Mikheeva, and L. M. Usol'teva 1018 1199

Volume 8, Number 6 November-December, 1967

Kinetics of Acetylene Thermal Decomposition within the Temperature Interval 800-1000° C —Yu. V. Maksimov, K. P. Lavrovskii, and Yu. P. Yampol'skii 1021 1205
Formation of Nitric Oxide in the System $N-N_2-O-O_2$ —A. I. Rozlovskii 1027 1212
Formation of Nitrogen Oxides through Reaction of Oxygen with a Nitrogen Plasma —G. I. Kozlov, G. N. Khydyakov, and Yu. N. Kobzev 1031 1217
Kinetic Rules for the Formation of 1,1,4,4-Tetrafluorobutadiene-1,3 and 1,1-Difluoropropyne in Tetrafluoroethylene and Acetylene Reactions—A. L. Bel'ferman and V. U. Shevchuk 1035 1221
Homolytic Decomposition of $C_5H_5VOCl_2$ under the Effect of Organic Bases —F. S. D'yachkovskii, N. E. Khrushch, and A. E. Shilov 1042 1230

Kinetics and Mechanism of Acetylene Catalytic Dimerization. II. Reaction Velocity Versus the Partial Pressure of Acetylene—O. N. Temkin, G. F. Tikhonov, R. M. Flid, and Yu. R. Galeev 1047 1236
Carbonyls of Group VIII Metals as Catalysts for Hydroformylation, Hydrocarboxylation, and Hydrocarbomethoxylation of Unsaturated Hydrocarbons—N. S. Imyanitov and D. M. Rudkovskii 1051 1240
Reactivity of Pt(II) Complexes in the Oxidation of Carbon Monoxide in Aqueous Solution—N. K. Eremenko, K. I. Matveev, and L. N. Rachovskaya 1056 1246
Kinetics of the Thermal Decomposition of N,N-Dimethylnitrosamine —Yu. G. Afanasenkova, B. L. Korsunskii, and F. I. Dubovitskii 1061 1252
Thermal Decomposition of Ionic Salts during X-ray Irradiation—A. I. Skorik, V. V. Boldyrev, and V. F. Komarov 1066 1258
Conversion of Alcohols on Europium Oxide—A. A. Tolstopyatova, A. A. Balandin, and V. A. Naumov 1071 1265
Hydrogenation Mechanism of 6-Methyl-3,5-heptadiene-2-one on Copper Catalysts —N. V. Borunova, L. Kh. Freidlin, L. I. Gvinter, D. I. Lainer, E. I. Krupnikova, and S. S. Danielova 1075 1270
Catalytic Conversions of Alkyl Derivatives of a Series of Benzenes and Naphthalenes under Hydrogen Pressure in a Continuous System—N. G. Bekauri, N. I. Shuikin, and T. S. Shakarashvili 1079 1275
Investigation of the State of the Platinum in Platinum Dehydrocyclization Catalysts by the Extraction Method—N. R. Bursian, S. B. Kogan, and Z. A. Davydova 1085 1283
Mechanism of Interaction of Fluoro-olefins with Hydrogen on the Surface of Metallic Catalysts—I. L. Knuyants and E. I. Mysov 1091 1290
Hydrogenation of Alkylaromatic Hydrocarbons in the Presence of Complex Organo-metallic Catalysts—V. G. Lipovich, F. K. Shmidt, and I. V. Kalechits 1099 1300
Poisoning of a Nickel-Chromium Catalyst in the Hydrogenation of Sulfolene —A. V. Mashkina, G. V. Golubkova, and Yu. A. Savostin 1104 1307
Interrelation of the Catalytic and Magnetic Properties of Cr_2O_3 Gel—L. A. Shapovalova, L. V. Bryukhovetskaya, and V. V. Voevodskii 1110 1314
Fused Promoter Catalysts for Ammonia Synthesis Based on Iron-Cobalt Alloys —Yu. N. Artyukh, M. T. Rusov, and N. A. Boldyreva 1114 1319
Catalytic Properties of Phthalocyanines in Cysteine Oxidation—N. N. Kundo, N. P. Keier, G. V. Glazneva, and E. K. Mamaeva 1119 1325
Relation Between the Kinetic and Electrochemical Characteristics of Liquid-Phase Hydrogenation. Activation Energy of the Reaction and Displacement of the Catalytic Potential—A. M. Sokol'skaya, D. V. Sokol'skii, and S. M. Reshetnikov . . . 1125 1331
Kinetics of the Hydrogenation of Benzene Catalysts in a Gradientless System. II. The Kinetic Isotopic Effects of the Reaction—N. E. Zlotina and S. L. Kiperman 1129 1335
Catalytic Activities of NiO-MgO Solid Solutions in the Oxidation of Carbon Monoxide —S. Z. Roginskii and V. A. Seleznev 1135 1342
Effect of Impact Compression on the Catalytic Properties of Oxidic Semiconductor Catalysts —S. S. Batsanov, G. K. Boreskov, G. V. Gridasova, N. P. Keier, L. M. Kefeli, V. M. Kudinov, V. I. Mali, and I. S. Sazonova 1140 1348
Infrared Spectroscopic Study of the Chemosorption and Reactivity of Mixtures of Acetone and Carbon Monoxide on Nickel (II) Oxide—A. A. Kadushin, Yu. N. Rufov, and S. Z. Roginskii 1147 1356
Radicals Formed in the Chemosorption of Electron Acceptor Molecules on n-Semiconductor Surfaces. II. Analysis of the EPR Spectra of the Radical Adsorption Species of Oxygen on Reduced Titanium Dioxide—I. D. Mikheikin, A. I. Mashchenko, and V. B. Kazanskii 1153 1363

BRIEF COMMUNICATIONS
Investigation of Aliphatic Glycol Esterification by Acrylic and Methacrylic Acids —G. A. Gareev and V. P. Men'shutin 1158 1369

Kinetics and Mechanism of the Catalytic Reaction of Isocyanates with Alcohols in the Presence of Organo-tin Compounds. IV. Catalysis by Tin Alkyl Carboxylates and Alkyl Chlorides—O. V. Nesterov, Yu. N. Chirkov, and S. G. Éntelis 1161 1371
Radical Formation in the Radiolysis of Solid Organics. V. Radiolysis of Aromatic Alcohols—V. I. Trofimov and I. I. Chkheidze 1164 1374
Determination of Kinetic Reaction Parameters for the Dehydration of Oxalates in Nonisothermal Conditions by the Derivativographical Method—A. V. Shkarin, D. N. Topor, and G. M. Zhabrova 1167 1377
Catalytic Properties of Platinum Group Metals and Their Alloys Based on Palladium —R. G. Davlesupova and D. V. Sokol'skii 1169 1378
Decomposition of H_2O_2 Vapors by Cast Samples and Vacuum Films of Mg-Cd, Mg-Zn, and Cd-Zn Alloys—V. V. Ordynskaya, L. N. Koltunova, and E. V. Efimovich 1172 1381
Hydrogenation of Menthyl α-Phenylcinnamate on Palladium Catalysts Supported on Optically Active Polymers—Yu. I. Petrov, E. I. Klabunovskii, and A. A. Balandin 1175 1384
Heterogeneous Catalysis Involving a Non-stoichiometric Component—Ya. T. Éidus and N. I. Ershov 1178 1387

LETTERS TO THE EDITOR

Carrier Influence on the Rate Constant of Propagation in the Polymerization of Ethylene on a Chromium Oxide Catalyst—V. A. Zakharov, Yu. I. Ermakov, and E. G. Kushnareva 1181 1390
Cause of Increase in Activity of a Chromium Oxide Polymerization Catalyst when it is Treated with Carbon Monoxide—V. A. Zakharov, Yu. I. Ermakov, and E.G. Kushnareva 1183 1391

ABSTRACTS

Abstracts of Articles from "Journal of Catalysis," Vol. 8, No. 1, 1967. Oxidation-Reduction Potentials and Their Relation to the Catalytic Activities of Transition-Metal Oxides—K. Klier 1184 1396

INDEX

Author Index, Numbers 1-6, 1967 1187
Tables of Contents, Numbers 1-6, 1967 1191